

AMENDMENTS TO THE CLAIMS

1. **(Currently amended):** A process for producing 4,4'-dihydroxydiphenylsulfone of high purity comprising the steps of:

subjecting phenol in combination with a sulfonating agent or phenolsulfonic acid to a dehydration reaction in the presence of mesitylene ~~an aromatic nonpolar solvent~~ while suspending the resulting dihydroxydiphenylsulfone therein;

mixing the resulting reaction suspension with phenol ~~a polar solvent~~ to at least partially dissolve the dihydroxydiphenylsulfone; and

precipitating dissolved 4,4'-dihydroxydiphenylsulfone.

2. **(Currently amended):** A process for producing 4,4'-dihydroxydiphenylsulfone of high purity comprising the steps of:

subjecting phenol in combination with a sulfonating agent or phenolsulfonic acid to a dehydration reaction in the presence of mesitylene ~~an aromatic nonpolar solvent~~ while suspending the resulting dihydroxydiphenylsulfone therein;

mixing the resulting reaction suspension with phenol ~~a polar solvent~~ to at least partially dissolve the dihydroxydiphenylsulfone;

primarily precipitating dissolved 4,4'-dihydroxydiphenylsulfone;

isolating the resulting 4,4'-dihydroxydiphenylsulfone by filtration or decantation;

distilling off the solvents contained in the liquid obtained after the isolation of the 4,4'-dihydroxydiphenylsulfone to produce a suspension or distillation residue;

at least partially dissolving solids contained in the suspension or the residue in a mixed solvent of a polar solvent and a nonpolar solvent; and

secondarily precipitating 4,4'-dihydroxydiphenylsulfone.

3. **(Previously presented):** A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to Claim 1, wherein the dehydration reaction between phenol and a sulfonating agent or phenolsulfonic acid is carried out in the presence of an acid catalyst.

4. **(Canceled)**

5. **(Canceled)**

6. **(Canceled)**

7. **(Currently amended)**: A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to Claim 1, wherein the reaction suspension and the phenol ~~polar solvent~~ are mixed while heating under pressure to at least partially dissolve dihydroxydiphenylsulfone.

8. **(Currently amended)**: A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to Claim 2, wherein the solids contained in the suspension or the residue is at least partially dissolved in a mixed solvent of phenol ~~a polar solvent~~ and mesitylene ~~a nonpolar solvent~~ while heating under pressure.

9. **(Previously presented)**: A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to Claim 2, wherein before or after the dehydration reaction between phenol and a sulfonating agent or phenolsulfonic acid, 4,4'-dihydroxydiphenylsulfone obtained by secondary precipitation is introduced into the reaction system.

10. **(Currently amended)**: A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to Claim 2, wherein the temperature is maintained at the isomerization temperature or higher even after phenol and mesitylene ~~the solvents~~ contained in the liquid obtained after the isolation of the primarily precipitated 4,4'-dihydroxydiphenylsulfone by filtration or decantation are distilled off to produce a suspension or distillation residue.

11. **(Previously presented)**: A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to Claim 2, wherein the dehydration reaction between phenol and a sulfonating agent or phenolsulfonic acid is carried out in the presence of an acid catalyst.

12. **(Canceled)**

13. **(Canceled)**

14. **(Canceled)**

15. **(Currently amended)**: A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to Claim 2, wherein the reaction suspension and the phenol ~~polar solvent~~ are mixed while heating under pressure to at least partially dissolve dihydroxydiphenylsulfone.

16. **(Currently amended)**: A method of producing 4,4'-dihydroxydiphenylsulfone comprising:

subjecting phenol in combination with a sulfonating agent or phenolsulfonic acid to a dehydration reaction in the presence of mesitylene ~~an aromatic nonpolar solvent~~ while suspending therein the generating dihydroxydiphenylsulfone, which is a isomeric

mixture of 4,4'-dihydroxydiphenylsulfone and 2,4'-dihydroxydiphenylsulfone, at an isomerization temperature or higher;

mixing the resulting reaction suspension with phenol ~~a polar solvent~~ to at least partially dissolve the dihydroxydiphenylsulfone; and

precipitating dissolved 4,4'-dihydroxydiphenylsulfone at a precipitation temperature.

17. **(Currently amended):** The method according to Claim 16, wherein while suspending the generating dihydroxydiphenylsulfone in mesitylene ~~an aromatic nonpolar solvent~~, an isomerization reaction is carried out in the presence of an acid catalyst.

18. **(Currently amended):** The method according to Claim 16, further comprising:

isolating the precipitated 4,4'-dihydroxydiphenylsulfone by filtration or decantation in a solvent;

distilling off the solvent after the isolation of the 4,4'-dihydroxydiphenylsulfone to produce a suspension or distillation residue;

at least partially dissolving solids contained in the suspension or the residue in a mixed solvent of phenol ~~a polar solvent~~ and mesitylene ~~a nonpolar solvent~~; and

secondarily precipitating 4,4'-dihydroxydiphenylsulfone.

19. **(Previously presented):** The method according to Claim 18, further comprising isolating the secondarily precipitated 4,4'-dihydroxydiphenylsulfone by filtration or decantation at a purity of 99% or higher.